

A. CLASSIFICATION SUBJECT MATTER  
IPC 7 B67C3/10

B67C3/26

B67C3/00

Rec'd PCT/PTO 04 APR 2005

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B67C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 323 667 A (SIG SIMONAZZI S P A) 2 July 2003 (2003-07-02) paragraphs '0022!', '0026!', '0029!; figures	1-4
A		5
X	US 4 436 124 A (BORSTELMANN WOLFGANG) 13 March 1984 (1984-03-13) column 1, line 66 - column 2, line 5 column 2, line 50 - line 62 figures 1,2	1-3
X	DE 42 19 082 A (KRONSEDER MASCHF KRONES) 16 December 1993 (1993-12-16) abstract; figures	1-3
A	EP 0 574 321 A (SCOMA S A) 15 December 1993 (1993-12-15) figures 6,7	1,5
	-/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*A\* document member of the same patent family

Date of the actual completion of the international search

23 September 2004

Date of mailing of the international search report

01/10/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Parislaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, TX 31 651 epo nl,  
Fax (+31-70) 340-3016

Authorized officer

Martínez Navarro, A.

1,5

Patent document cited in search report		Publication date	Patent family member		Publication date
EP 1323667	A	02-07-2003	EP	1323667 A1	02-07-2003
US 4436124	A	13-03-1984	DE NL	3102678 A1 8105734 A	02-09-1982 16-08-1982
DE 4219082	A	16-12-1993	DE	4219082 A1	16-12-1993
EP 0574321	A	15-12-1993	FR EP	2692243 A1 0574321 A1	17-12-1993 15-12-1993
EP 0409798	A	23-01-1991	IT BR EP US	1234001 B 9002602 A 0409798 A1 5095958 A	22-04-1992 20-08-1991 23-01-1991 17-03-1992

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P 8 067 PCT/EU</b>	<div style="display: flex; justify-content: space-between;"> <div> <b>FOR FURTHER ACTION</b> </div> <div>           See Form PCT/PEA/416         </div> </div>	
International application No. <b>PCT/IB2004/002002</b>	International filing date ( <i>day/month/year</i> ) <b>16.06.2004</b>	Priority date ( <i>day/month/year</i> ) <b>03.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>B67C3/22, B67C3/10, B67C3/26, B67C3/00</b>		
Applicant <b>STK STOCCHI PROGETTI SRL</b>		
<ol style="list-style-type: none"> <li>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</li> <li>3. This report is also accompanied by ANNEXES, comprising:               <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> <i>sent to the applicant and to the International Bureau</i> a total of 3 sheets, as follows:                   <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).                   <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.                 </div> </li> <li>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol>		
<ol style="list-style-type: none"> <li>4. This report contains indications relating to the following items:               <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I      Basis of the opinion  <input type="checkbox"/> Box No. II      Priority  <input type="checkbox"/> Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  <input checked="" type="checkbox"/> Box No. IV      Lack of unity of invention  <input checked="" type="checkbox"/> Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  <input type="checkbox"/> Box No. VI      Certain documents cited  <input type="checkbox"/> Box No. VII      Certain defects in the international application  <input type="checkbox"/> Box No. VIII      Certain observations on the international application                 </div> </li> </ol>		
Date of submission of the demand  <b>18.01.2005</b>	Date of completion of this report  <b>25.02.2005</b>	
Name and mailing address of the international preliminary examining authority:  <div style="display: flex; align-items: center;"> <div>             European Patent Office - P.B. 5818 Patentlaan 2              NL-2280 HV Rijswijk - Pays Bas              Tel. +31 70 340 - 2040 Tx: 31 651 epo nl              Fax: +31 70 340 - 3016           </div> </div>	Authorized Officer  <b>Martínez Navarro, A.</b>  Telephone No. +31 70 340-2876	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/B2004/002002

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-4 as originally filed

**Claims, Numbers**

1-6 received on 18.01.2005 with letter of 18.01.2005

**Drawings, Sheets**

1/2, 2/2 as originally filed

- ☐ a. sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/B2004/002002

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**Box No. IV Lack of unity of invention**

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1. ☐ In response to the invitation to restrict or pay additional fees, the applicant has:
- ☐ restricted the claims.
  - ☐ paid additional fees.
  - ☐ paid additional fees under protest.
  - ☐ neither restricted nor paid additional fees.
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
  - ☐ not complied with for the following reasons:
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
  - ☐ the parts relating to claims Nos. .

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item IV**

**Lack of unity of invention**

- 1 This Authority considers that there are 2 inventions covered by the claims indicated as follows:
  - I: Claims 1 to 5 directed to a filling valve with an auxiliary conduit surrounding the valve body.
  - II: Claim 6 directed to a filling valve having a closing lid.
- 2 The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:
  - 2.1 The prior art has been identified as document EP 1 323 667 A and discloses:

Filling valve for an aseptic filling of alimentary liquids comprising a feeding conduit (4,8) for a product stream to be filled in a container such that the product stream flows from the valve in an area near a filling mouth of the container (7) underneath, wherein the product stream is isolated from the atmosphere by means of a coaxial flow of an aseptic and/or inert gas, which is fed by an auxiliary circuit (22,24) surrounding the filling mouth, and wherein the auxiliary circuit (22,24), which is fed during a filling operation by a flow of the sterile and/or inert gas for assuring an aseptic condition of the filling process, is adapted for being used for a re-circulation of a sanitizing fluid fed by the feeding conduit (4,8).
  - 2.2 It follows that the following technical features of claims 1 and 6 make a contribution over the prior art and can be considered as special technical features within the meaning of Rule 13.2 PCT:

Claim 1. The auxiliary conduit is arranged and formed such that the valve body is surrounded coaxially by the auxiliary conduit.

Claim 6. A lid is included, by which during the sanitization of the filling mouth the valve is closed in cooperation with a sliding manifold, which is mounted on the body of the filling valve.

- 2.3 The problem solved by these special technical features can therefore be construed as:

Claim 1. The fabrication of the valve is simplified, since the construction of the auxiliary conduit is simpler and this special feature allows the product connection to be above the auxiliary conduit connection, so that the auxiliary conduit does not interfere with the product inlet.

Claim 2. The sanitization process is made faster, since there is no need of installing additional devices.

- 2.4 Neither the aforementioned problems underlying the subjects of the claimed inventions, nor their solutions defined by the special technical features allow for a relationship to be established between the said inventions, which involves a single general inventive concept.
- 2.5 In conclusion, the groups of claims are not linked by common or corresponding special technical features and define 2 different inventions not linked by a single general inventive concept. The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 1 The subject-matter of claims 1 and 6 differs from the prior art by the special technical features listed in point IV.2.2 above.

The subject-matter of claims 1 and 6 is therefore new (Article 33(2) PCT).

- 2 The respective problems to be solved by the present inventions are mentioned in point IV.2.3 above. The solutions to these problems as represented by the special technical features proposed respectively in claims 1 and 6 of the present application are considered as involving an inventive step (Article 33(3) PCT) because no previous disclosure has identified the



**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/IB2004/002002

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said problems as the application nor has suggested the solutions given by the inventions.

- 3        Claims 2 to 5 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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January 18, 2005  
PCT/IB2004/002002  
P 8 067 PCT/EU

Claims

1. A filling valve for aseptic filling of alimentary liquids comprising:

a valve body (7);

a filling mouth;

a feeding conduit (3) which is arranged such that a product stream to be filled into a container flows through the valve body (7) out of the filling mouth; and

an auxiliary conduit (2) for supplying aseptic and/or inert gas which is arranged such that in an area near the filling mouth the product stream is isolated from the atmosphere by means of a coaxial flow of the aseptic and/or inert gas;

characterized in that

the auxiliary conduit (2) is arranged and formed such that the valve body (7) is surrounded coaxially by the

auxiliary conduit (2), thereby ensuring that the aseptic and/or inert gas completely surrounds the product stream in a circumference direction.

2. The filling valve of claim 1, characterized in that the valve is adapted for continuous outflowing of the aseptic and/or inert gas through the filling mouth for reducing the presence of oxygen in a top part of the container.

3. The filling valve of claims 1 and 2, characterized in that the filling valve is adapted for maintaining the aseptic conditions of the filling valve also when the filling valve is closed.

4. The filling valve of one of claims 1 to 3, characterized in that the auxiliary circuit (2), which is fed during a filling operation by a flow of the aseptic and/or inert gas for assuring an aseptic condition of the filling process is adapted for being used for a re-circulation of a sanitizing fluid which is fed by the feeding conduit (3).

5. The filling valve of claim 4, characterized in that during the sanitation of the filling valve the filling mouth is closed by a lid in cooperation with a sliding manifold (11) which is located on the valve body (7).

6. Filling valve for an aseptic filling of alimentary liquids comprising a feeding conduit (3) for a product stream

to be filled in a container such that the product stream flows from the valve in an area near a filling mouth of the container underneath, wherein the product stream is isolated from the atmosphere by means of a coaxial flow of an aseptic and/or inert gas, which is fed by an auxiliary circuit (2) surrounding the filling mouth, and wherein the auxiliary circuit (2), which is fed during a filling operation by a flow of the sterile and/or inert gas for assuring an aseptic condition of the filling process, is adapted for being used for a re-circulation of a sanitizing fluid fed by the feeding conduit (3), characterized by a lid (9), by which during the sanitization of the filling mouth the valve (7) is closed in cooperation with a sliding manifold (11), which is mounted on the body of the filling valve (7).

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